

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

1. (Currently amended): A diamond wheel for forming a scribe line on a surface of a brittle material while rolling thereon, wherein the diamond wheel is provided with a blade having a V-section in an entire circumferential direction of a peripheral edge portion of the diamond wheel, diamond grains having 1000 to 8000 mesh are held to the blade by adhering the diamond grains to the blade by means of a bonding agent and then pressurizing or sintering the diamond wheel to which the diamond grains are adhered by the bonding agent, and a pitch between the diamond grains at a front end edge of the V-shaped blade in the circumferential direction is 2 to 20 μm .

2. Canceled.

3. (Previously Presented): The diamond wheel according to claim 1, wherein the V-shaped section has an opening angle of 110 to 165 degrees.

4. (Previously Presented): The diamond wheel according to any one of claims 1 and 3, wherein the diamond wheel is adapted to roll on the brittle material while oscillating in a direction crossing the surface of the brittle material.

5. (Currently amended): A scribing apparatus for forming a scribe line on a surface of a brittle material, comprising:

a diamond wheel provided with a blade having a V-section in an entire circumferential direction of a peripheral edge portion of the diamond wheel, in which diamond grains having

1000 to 8000 mesh are held to the blade by adhering the diamond grains to the blade by means of a bonding agent and then pressurizing or sintering the diamond wheel to which the diamond grains are adhered by the bonding agent, and a pitch between the diamond grains at a front end edge of the V-shaped blade in the circumferential direction is 2 to 20 μm ;

a holding member for holding the diamond wheel to be rollable;

an oscillation generation member for oscillating the holding member in a direction crossing the surface of the brittle material; and

a moving mechanism for moving the holding member along the surface of the brittle material so that the diamond wheel rolls on the surface of the brittle material.

6. (Previously presented): The diamond wheel according to claim 1, wherein the diamond wheel is capable of forming a scribe line on a surface of a brittle material selected from the group consisting of glass, quartz, semiconductor, ceramic, and liquid crystal hard glass.

7. (Previously presented): The diamond wheel according to claim 1, wherein the diamond wheel is capable of forming a scribe line on an electron device part or an LCD component having a 0.1 to 0.5 μm polarizing plate, protective layer or metal evaporation film.

8. (Previously presented): The diamond wheel according to claim 1, wherein the diamond wheel comprises diamond powder of over 8000 mesh mixed with said diamond grains.

9. (Previously presented): The diamond wheel according to claim 1, wherein the diamond wheel comprises an abrasive grain layer which comprises said diamond grains and said bonding agent.

10. (Previously presented): The diamond wheel according to claim 9, wherein the diamond wheel comprises a metallic rootstock and said abrasive grain layer is around said metallic rootstock.

11. (Previously presented): The diamond wheel according to claim 9, wherein the diamond wheel consists of said abrasive grain layer.

12. (Previously presented): The diamond wheel according to claim 1, wherein the bonding agent is selected from the group consisting of a resin and a metal bond.

13. (Previously presented): The diamond wheel according to claim 12, wherein the diamond grains and the bonding agent are pressurized or sintered.

14. (Previously presented): The diamond wheel according to claim 1, wherein the diamond grains have an average grain diameter of $2\mu\text{m}$.